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Aerionics Inc.
3601 N. St. Paul Ave.
Sioux Falls, SD 57104
Attn: Jeffrey Christiansen

RESEARCH REPORT NO.: 930483

Approval Date: August 9, 2014
Approval Expires: August 9, 2015

**GENERAL APPROVAL** - Carbon Monoxide Detection System - Manufactured by Macurco / Aerionics Inc. - Controller Model “DVP-120" - Rated 120VAC, 60HZ, 1.0 Amp and Carbon Monoxide (CO) Sensor Model “CM-6" - Rated 24VAC, 60HZ, 5VA.

## DETAILS

This approval is for fire, shock, and electrical hazards only and does not address those aspects of detection of gases the device is designed or calibrated to detect.

## CONDITIONS OF APPROVAL

The installation and use of the carbon monoxide detection system is approved when the following provisions are met:

1. The Controller Model DVP-120 - shall be plainly and permanently marked in letter heights not smaller than 1/8 inch on a contrasting background where readily visible with the following:

   A. Manufacturer's name, *(Macurco / Aerionics Inc.)*

   B. Model designation, *(DVP-120 )*

   C. Serial Number,

   D. Electrical rating, in Volts, Amperes and Frequency, *(120VAC, 1.0Amp, 60HZ)*

   E. “NOT SUITABLE FOR HAZARDOUS LOCATIONS”,

   H. “For Carbon Monoxide Detection Only.”,

   I. “For use with Macurco / Aerionics, Inc., CM-6 Carbon Monoxide Sensor ONLY”,

   J. “For Indoor / Dry Installations ONLY.”,

   K. “The installation of this CO detection system shall be based on the conditions of approval listed in Research Report number 930483. Not valid if RR is not current. For a copy of the RR visit www.LADBS.org or call 323-224-2168.”



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2. The Carbon Monoxide Sensor Model CM-6 shall be plainly and permanently marked on a contrasting background where readily visible with the following:

   A. Manufacturer's name, *(Macurco / Aerionics Inc.)*
   B. Model designation, *(CM-6)*
   C. Electrical rating, *(24VAC, 60HZ, 5VA)*
   D. Manufactured date,
   E. "Carbon Monoxide Sensor"
   F. "For use with Macurco / Aerionics, Inc. DVP-120 Controller ONLY."
   G. "This CO Sensor must be replaced within 7 years of the manufactured date."

3. The detection system shall be installed, calibrated, and maintained by qualified personnel in accordance with the manufacturer's instructions. The installation of the detection system shall comply with the applicable provisions of the Los Angeles City Codes (Building, Electrical, Mechanical and Fire).

4. Plans for the installation of the carbon monoxide detection system shall be submitted to and approved by the Mechanical Plan Check and the Electrical Plan Check prior to each installation.

5. The performance and sensitivity of the *Carbon Monoxide (CO) Detection System* must be evaluated, tested and listed by an approved recognized testing agency.

6. An electrical permit shall be obtained prior to installation or relocation of this equipment in the City of Los Angeles.

7. When the concentration of carbon monoxide reaches 50 ppm, the ventilation system shall activate and shall operate until the carbon monoxide level drops below 35 ppm.

8. An audible and visible alarm shall be provided in at a constantly manned monitoring location. When the carbon monoxide concentration reaches 150 ppm for more than 15 minutes or when the concentration reaches 200 ppm, the visual and audible alarms shall be activated.

9. The audible device shall have a different tone from life safety devices.

10. The carbon monoxide monitoring system shall be serviced by qualified personnel at least once a year and it shall always be in optimum operating condition. The owner shall maintain all service records and make them available to the Department of Building and Safety for inspection when requested.

11. A part, when replaced, shall be of the identical original approved manufactured part and rating, unless otherwise approved by the Los Angeles City Electrical Testing Laboratory.

12. This approval shall be void if the product is modified without prior authorization from the Los Angeles City Electrical Testing Laboratory.

13. A copy of this conditional approval letter shall be made available at each installation site.

## DISCUSSION

The product covered in this Research Report is a *Carbon Monoxide (CO) Detection System* for use in non-hazardous locations such as commercial buildings. The detection system monitors the carbon monoxide level in the surrounding air and activates the ventilation system when the gas level exceeds 50 ppm. If the gas concentration rises above OSHA-recommended upper limits, an audible and visual alarm will be activated. The performance and sensitivity of this *Carbon Monoxide (CO) Detection System* was evaluated and accepted by an approved recognized testing agency.

An on-board microcomputer supervises and verifies the operation of the system and displays the status to the indicator lights. If a malfunction occurs, the ventilation system is activated and a fault warning signal is activated.

When this system is installed in accordance with the provisions of this General Approval, it should meet the minimum safety standards of the Los Angeles City Electrical Code.

For this General Approval to be valid on any installation in the City of Los Angeles, an engineer or inspector of the Department of Building and Safety may make a determination that all conditions of the General Approval required to provide equivalency have been met.

This General Approval is in accordance with Section 93.0303 of the Electrical Code pertaining to "New Materials and Methods of Construction", and does not waive the requirements of the City of Los Angeles Building Code.

This General Approval is neither a product endorsement nor a certification of function of accuracy of the approved item.

**APPROVED BY:**

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CO Sensor, Model CM-6

Controller, Model DVP-120